REMARKS

Claims 1-3 are all the claims pending in the application.

The Office Action Summary fails to indicate whether the Drawings submitted on July 16, 2004 have been accepted. Formal approval of the Drawings is respectfully requested.

Claims 1-3 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 02/051528 to De La Cruz ("Cruz '528") or U.S. Patent No. 6,352,641 to Schmidt ("Schmidt '641").

Applicants respectfully traverse.

Claim 1 recites that an effective perforated-part area is at least 1.0 time the inner cross-sectional area of a core tube. The effective perforated-part area is calculated by multiplying the total area of the perforated parts in the core tube by the percentage of openings of one layer of a permeation-side passage material surrounding the core tube.

With respect to Cruz '528, Example 5 of Cruz '528 teaches producing an element by rolling sheet material about a central tube having an outer diameter of 0.6 inch (1.5 cm). *See*, page 19, line 22 to page 20, line 2. Example 5 of Cruz '528 fails to teach the inner diameter of the central tube. *Id.* Example 5 of Cruz '528 also fails to teach the total area of perforations drilled in the central tube. *Id.* Example 5 indicates that Cruz '528 also fails to teach the percentage of openings of one layer of the perforation-side passage material. *See*, page 19, line 2 to page 20, line 2.

MPEP 2144.05(II)(B) (2005) states that only result effective variables can be optimized. In the present case, Example 5 of Cruz '528 fails to teach or suggest measuring (i) the total area of perforations in the central tube, (ii) the percentage of openings of the permeation-side passage

material, and (iii) the inner diameter of the central tube. In this regard, Cruz '528 fails to recognize that (i) the total area of perforations in the central tube, (ii) the percentage of openings of the permeation-side passage material, and (iii) the inner diameter of the central tube work together as result-effective variables.

Further, Cruz '528 teaches a fibrous support having a pore size of no greater than about 300 microns. *See* Abstract. The pore size of the fibrous support fails to provide for percentage of openings as Cruz '528 fails to teach the amount of pores in the fibrous support.

With respect to Schmidt '641, Figure 1 shows that tube 20 includes axial holes 22. *See*, col. 2, lines 50-59. Schmidt does not teach the percentage of openings in its permeate spacers 15. As a result, Schmidt '641 fails to measure (i) the total area of perforations in the central tube, (ii) the percentage of openings of the permeation-side passage material, and (iii) the inner diameter of the central tube. In this regard, Schmidt '641 fails to recognize that (i) the total area of perforations in the central tube, (ii) the percentage of openings of the permeation-side passage material, and (iii) the inner diameter of the central tube work together as result-effective variables.

Additionally, U.S. Patent No. 6,702,941 to Haq *et al.* ("Haq '941"), which was cited in the sentence bridging pages 2-3 in the Office Action, does not demonstrate that (i) the total area of perforations in the central tube, (ii) the percentage of openings of the permeation-side passage material, and (iii) the inner diameter of the central tube work together as result effective variables. Referring to Figure 4, Haq '941 teaches a filter element where tube 70 surrounds filter pack 20 and core 30. *See*, col. 25, lines 43-54. Haq '941 teaches that the total area of perforations 71 in tube 70 is preferably at least as large as cross-sectional area of the filter pack 20.

The filter pack 20 is different from the central tube disclosed in Cruz '528 or tube 20 disclosed in Schmidt '641. Further, the perforations 71 disclosed in Haq '941 are different from the openings of the permeation side passage material. Haq '941 also fails to teach the inner diameter of the core 30 shown in Figure 4 thereof. In this regard, Haq '941 is not evidence that a person of ordinary skill in the art knew that (i) the total area of perforations in the central tube, (ii) the percentage of openings of the permeation-side passage material, and (iii) the inner diameter of the central tube work together as result effective variables.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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